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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Seishi SUEHIRA

Serial No. 09/441,074 Group Art Unit: 2177

Confirmation No. 3826

Filed: November 16, 1999 Examiner: Sathyanaraya R. Pannala

For: STRUCTURED DOCUMENT PREPARATON METHOD AND COMPUTER-READABLE RECORDING MEDIUM ON WHICH A STRUCTURED DOCUMENT IS RECORDED

APPEAL BRIEF UNDER 37 C.F.R §§ 1.191 AND 1.192

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Sir:

Pursuant to the Appellant's earlier filed Notice of Appeal on April 19, 2004, Appellant hereby appeals to the Board of Patent Appeals and Interferences from the final rejection mailed December 23, 2003.

Appellant submits this Appeal Brief in triplicate as required by 37 C.F.R. §1.192(a) along with the filing fee of $330.00 set forth in 37 C.F.R. §1.17(c).

I. **Real Party in Interest**

Pursuant to 37 C.F.R. §1.192(c)(1), due to the assignment executed on November 2, 1999 by the inventor Seishi Suehira and recorded in the United States Patent and Trademark Office at Reel 010411, Frame 0887, the real party in interest is as follows:

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II. Related Appeals and Interferences

Pursuant to 37 C.F.R. §1.192(c)(2), Applicant is not aware of any pending appeals or interferences that directly affects or will be directly affected by any decision of the Board of Patent Appeals and Interferences in this appeal.

III. Status of Claims

Pursuant to 37 C.F.R. §1.192(c)(3), claims 1 through 14 are pending in this application at the filing of this Appeal Brief. Claims 1 through 14 stand finally rejected. Claims 1, 9, 13, and 14 are independent claims, and claims 2-8, and 10-12 are dependent claims.

Claims 1 through 12 were originally filed in the application. In the Amendment filed on May 13, 2002, each of claims 1 through 9 was amended and independent claim 13 was added. In the Amendment filed on November 25, 2002, each of claims 1, 9, and 13 was again amended. Independent claim 14 was added in the Supplemental Amendment that was entered pursuant to the Request for Continued Examination (RCE) filed January 24, 2003.

In view of the final Office Action mailed December 23, 2003 and the Advisory Action mailed April 1, 2004, claims 1 through 14 stand finally rejected. This Appeal Brief supports an appeal of the finally rejected claims 1 through 14.

IV. Status of Amendments

Pursuant to 37 C.F.R. §1.192(c)(4), all amendments filed have been entered and no amendments have been filed since the final Office Action of December 23, 2003.

Pursuant to 37 C.F.R. §1.192(c)(9), a copy of the claims involved in the appeal is included in their present condition is included in Appendix A.

V. Summary of the Invention

Pursuant to 37 C.F.R. §1.192(c)(5), the presently claimed invention is directed to a structured document creation apparatus and method for creating a structured document in accordance with a predetermined document type definition, wherein the document type definition includes a plurality of element declarations that respectively define a plurality of types of logical structures for said one document instance and a plurality of entity declarations that respectively designate said defined logical structures.

As illustrated in FIG 1 of the present application (see Appendix B, which includes a copy of FIG. 1), an SGML document (structured document) 100 is prepared in accordance with a predetermined DTD (Document Type Definition). The SGML document 100 is recorded, for example, in the data file 1 formed on the hard disk 12 and includes an SGML declaration (not shown), a DTD 20, and a document instance (document contents) 30. The SGML declaration describes types of character codes used in the document. The document instance 30 indicates contents of the document. The DTD 20 defines the structure of the document and provides meanings to document structure elements arbitrarily, and describes an order of appearance of the document structure elements, a hierarchical relationship among the document structure elements and other factors. The DTD 20 uses element declarations (ELEMENT statements) and entity declarations (ENTITY statements) to define elements that compose the document and mutual relationships of the elements.

Specifically, the DTD 20 includes a document type declaration that declares what DTD 20 is used, element declarations EL1 to ELn that defines a logical structure of the SGML document 100, and entity declarations EN1 to ENn that designate logical structures. In the DTD 20 of the SGML document 100, a plurality of different element declarations EL1 to ELn that

define a plurality of different logical structures and a plurality of different entity declarations EN1 to ENn that designate the plurality of different logical structures are described in a list. Further, control information Ii (i = 1, 2, ..., n) indicate whether the entity declarations EN1 to ENn are individually valid or invalid.

As illustrated in FIG. 3 of the present application (see Appendix B, which includes a copy of FIG. 3), the entity declarations EN1a and EN2a in the DTD 20 shown are entity declarations (ENTITY statements) designating the different logical structures from each other. In particular, the entity declaration EN1a declares an entity name "hierarchy" and the entity declaration EN2a declares another entity name "table". Further, either one of "INCLUDE" and "IGNORE" is described as control information I1a and I2a in each of the entity declarations EN1a and EN2a. The element declaration EL1a defines an entity declared with the entity name "table" (ELEMENT statement), such that the entity may have a logical structure of the table form layout. The element declaration EL2a defines an entity declared with the entity name "hierarchy" (ELEMENT statement), such that the entity may have a logical structure of the hierarchical structure form layout. In short, the logical structure of the SGML document 100 can be set to the table form layout by rewriting the control information I1a and I2a of the entity declarations EN1a and EN2a shown in FIG. 3.

Thus, a user can set "INCLUDE" to the control information of one of the plurality of entity declarations and set "IGNORE" to the other control information. As such, an SGML document 100 having one of logical structures of the hierarchical structure form layout and the table form layout can be prepared readily and an operation of displaying or printing the SGML document 100 and/or registering the SGML document 100 into a database for later utilization and so forth can be easily performed.

VI. Issues

1. Whether claims 9-12 properly stand rejected under 35 U.S.C. §102(a) as being anticipated by Sato et al. (U.S. Patent No. 6,014,680).

2. Whether claims 1-8, and 13-14 properly stand rejected under 35 U.S.C. §103(a) as unpatentable over Sato et al. (U.S. Patent No. 6,014,680) in view of Wanderski et al. (U.S. Patent No. 6,519,617).

VII. Grouping of Claims

Pursuant to 37 C.F.R. §1.192(c)(7), the claims are grouped as follows:

1. Independent claims 1, 13, and 14 and dependent claim 5 stand or fall together.

2. Dependent claims 2 and 6 stand or fall together.

3. Dependent claims 3, 4, 7, and 8 stand or fall together.

4. Independent claim 9 and dependent claim 11 stand or fall together.

5. Dependent claims 10 and 12 stand or fall together.

VIII. Argument

1. Each of Claims 9 Through 12 Patentably Distinguishes Over Sato.

In general, in order to reject a claim under 35 U.S.C. §102, a reference must be provided that discloses each element of the claim in the manner recited in the claim. In interpreting the reference, the Examiner is to broadly interpret the claim, but must do so within the bounds of reason. In re Morris, USPQ2d 1023, 1027-28 (Fed. Cir. 1997), MPEP 2131 and 2111. Thus, while the Examiner is to avoid reading limitations from the specification into the claims, the Examiner should not interpret claim limitations so broadly as to contradict or otherwise render a limitation meaningless as would be understood by those of ordinary skill in the art. See, In re Cortright, 49 USPQ2d 1464, 1467 (Fed. Cir. 1999), In re Zletz, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), MPEP 2111.01.

It is submitted that the reference teachings, as proposed in the Office Action, do not

disclose the invention as required by the claims. The Sato et al. (hereinafter, "Sato") apparatus prepares a DTD and a corresponding keyword in advance, and these elements are to be used to convert a non-structured document into a structured document. Moreover, the object of Sato is to structuralize a non-structured document into a structured document by relating the non-structured document to the keyword. Specifically, Sato discloses a method for allocating one or more structured elements to a word in the non-structured document.

In particular, Sato discloses modifying a standard DTD 106 in accordance with a comparison result between a non-structured document 101 and the standard DTD 106. Sato discloses using a parsing rule generating module 110 to generate a parsing rule 111 from the modified DTD 108 and generating a parsing module 105 in accordance with the parsing rule 111. The parsing module 105 performs a parsing process for a keyword/text model 104, and affixes a tag representative of the document structure to generate an interim SGML document 114. The interim SGML document 114 is a document instance formed in conformity with the modified DTD 108. Therefore, by referring to the DTD difference data 109, an SGML document correcting module 115 modifies the interim SGML document 114 to generate an SGML document 116 matching the DTD 106. Sato, Columns 7-8, Lines, 38-76 and 1-15.

A. Each of Claims 9 and 11 recites a plurality of element declarations that respectively define a plurality of types of logical structures for said one document instance and is patentably distinguishable over Sato.

By way of review, independent claim 9 of the presently claimed invention recites, "[a] computer-readable recording medium on which a structured document created in accordance with a predetermined document type definition is recorded, said medium comprising: ... *a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance, and a plurality of entity declarations which respectively*

designate said defined logical structures being described in said region in which the document type definition is recorded; for each of the plurality of entity declarations, information which indicates whether the entity declaration is valid or invalid being additionally described" (italics added). As such, the structured document includes a plurality of element declarations that respectively define a plurality of logical structures for the one document instance.

In contrast, Sato is silent about the plural elements defining plural types of logical structures and simply discloses extracting one or more keywords from a non-structural document and then relating each of the extracted keywords to a predetermined DTD. Sato does not discuss or support a computer-readable recording medium comprising a structured document having a plurality of element declarations that respectively define a plurality of type of logical structures for the same one document instance. Instead, Sato discloses a DTD having a plurality of elements ("PROMULGATION", "ESTABLISHED REGULATIONNO", "TITLE", "PRESENTREGULATION", etc.) of structure ("PCDATA") without any discussion of having a plurality of elements defining a plurality of types of logical structures, respectively. Sato, Column 8, Lines 25-63.

Applicant respectfully submits that Sato does not disclose a DTD having a plurality of element declarations to respectively define a plurality of types of logical structures for the same one document instance, as is required by claim 9 of the presently claimed invention. Contrarily, as discussed above and in Sato, Column 8, lines 7-15, Sato discloses modifying the DTD to correspond with the unstructured document structure in order to create an SGML matching the DTD. Thus, each modified DTD is a different DTD representing different elements and/or logical structures and the document instance is formed in conformity with the modified DTD. Therefore, one document instance, which is defined in terms of one DTD, cannot be used for multiple

purposes if each purpose requires a different logical structure, for example being printed and being stored in database.

Distilling an invention down to the "gist" or "thrust" of an invention disregards the requirement of analyzing the subject matter "as a whole." W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (restricting consideration of the claims to a 10% per second rate of stretching of unsintered PTFE and disregarding other limitations resulted in treating claims as though they read differently than allowed); Bausch & Lomb v. Barnes-Hind/ Hydrocurve, Inc., 796 F.2d 443, 447-49, 230 USPQ 416, 419-20 (Fed. Cir. 1986), cert. denied, 484 U.S. 823 (1987) (District court focused on the "concept of forming ridgeless depressions having smooth rounded edges using a laser beam to vaporize the material," but "disregarded express limitations that the product be an ophthalmic lens formed of a transparent crosslinked polymer and that the laser marks be surrounded by a smooth surface of unsublimated polymer."). MPEP 2141.02.

In response to Applicant's arguments filed on September 9, 2003, January 24, 2003, and May 21, 2002, the Examiner does not explain or show how Sato discloses a DTD having "a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance." Instead, the Examiner completely disregards the specific limitations of the DTD disclosed in the presently claimed invention and merely states that Sato discloses a DTD. The limitation disregarded by the Examiner is, "a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance." As such, the Examiner's characterization of the DTD of the Sato reference does not correspond to the presently claimed invention as recited in claim 9. Therefore, it is respectfully submitted that Sato does not disclose "a plurality of element declarations which

respectively define a plurality of types of logical structures *for said one document instance*" (italics added) as recited in claim 9.

Moreover, dependent claim 11 depends from claim 9. Therefore, for at least the reasons that claim 1 patentably distinguishes over the cited reference, it is respectfully submitted that claim 11 also patentably distinguishes over the cited reference.

B. Each of dependent claims 10 and 12 patentably distinguishes over Sato.

Claim 10 patentably distinguishes over Sato, reciting, "... the plurality of different logical structures include a logical structure form layout and a table form layout." Sato does not disclose a plurality of different logical structures defined by a plurality of element declarations. Rather than disclosing the foregoing feature, Sato discloses extracting one or more keywords from a non-structural document and then relating each of the extracted keywords to a predetermined DTD. Sato, Column 15, Lines 3-41. As such, the Examiner's characterization of the Sato reference does not correspond to the presently claimed invention as recited in claim 10. Therefore, it is respectfully submitted that Sato does not discuss or support a document instance having a plurality of types of logical structures, such as a logical structure form layout and a table form layout.

Moreover, dependent claim 12 depends from claim 10. Therefore, for at least the reasons that claim 10 patentably distinguishes over the cited references, it is respectfully submitted that claim 12 also patentably distinguishes over the cited references.

2. Each of claims 1-8 and 13-14 patentably distinguishes over Sato in view of Wanderski et al. (U.S. Patent No. 6,519,617).

Claims 1-8, and 13-14 are rejected under 35 U.S.C. §103(a) as unpatentable over Sato et al. (U.S. Patent No. 6,014,680) and in view of Wanderski et al. (U.S. Patent No. 6,519,617)

(hereinafter, "Wanderski").

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

As previously discussed, the Sato apparatus prepares a DTD and a corresponding keyword in advance, and these elements are to be used to convert a non-structured document into a structured document. The object of Sato is to structuralize a non-structured document into a structured document by relating the non-structured document to the keyword. Sato discloses a method for allocating one or more structured elements to a word in the non-structured document.

In particular, Sato discloses modifying a standard DTD 106 in accordance with a comparison result between a non-structured document 101 and the standard DTD 106. Sato discloses using a parsing rule generating module 110 to generate a parsing rule 111 from the modified DTD 108 and generating a parsing module 105 in accordance with the parsing rule 111. The parsing module 105 performs a parsing process for a keyword/text model 104, and affixes a tag representative of the document structure to generate an interim SGML document 114. The interim SGML document 114 is a document instance formed in conformity with the modified DTD 108. Therefore, by referring to the DTD difference data 109, an SGML document correcting module 115 modifies the interim SGML document 114 to generate an SGML document 116 matching the DTD 106. Sato, Columns 7-8, Lines, 38-76 and 1-15.

Wanderski relates to a method, system, and computer-readable code for translating an input document into an XML dialect, which is well formed, such that automated, dynamically selected transformations can be applied to the document.

The combination of Sato and Wanderski results in a structured document generating method and apparatus that incorporates SGML and XML languages to create structured document and a keyword extraction module to extract a keyword representative of the document structure from a non-structured document by using a keyword extracting rule, and a keyword/text model is generated which is described by two elements including keywords and other strings.

A. Each of Claims 1, 5, 13 and 15 recites a plurality of element declarations that respectively define a plurality of types of logical structures for said one document instance and is patentably distinguishable over Sato in view of Wanderski.

By way of review, independent claim 1 of the presently claimed invention recites, "[a] structured document creation method for creating a structured document in accordance with a predetermined document type definition, comprising: preparing at least one document instance which presents a contents of said structured document, *and a document type definition which defines a document structure of said structured document, including a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance*, and a plurality of entity declarations which respectively designate said defined logical structures; ... " (italics added).

In contrast to the presently claimed invention, the combination of Sato and Wanderski neither discusses nor supports the claim limitations of the presently claimed invention. In particular, neither reference, alone or in combination, discusses or suggests the claimed element recited in independent claim 1: "... *a plurality of element declarations which*

respectively define a plurality of types of logical structures for said one document instance ..."

The Examiner argues that Sato discloses, "preparing at least one document instance ..." at FIGS. 1-4, Column 8, Lines 10-15 and 24-64. However, as discussed above with claim 9, Sato does not disclose a DTD having a plurality of element declarations to respectively define a plurality of types of logical structures for the same one document instance, as is required by claim 9 of the presently claimed invention. Contrarily, as discussed above and in Sato, Column 8, lines 7-15, Sato discloses modifying the DTD to correspond with the unstructured document structure in order to create an SGML matching the DTD. Thus, each modified DTD is a different DTD representing different elements and/or logical structures and the document instance is formed in conformity with the modified DTD. Therefore, one document instance, which is defined in terms of one DTD, cannot be used for multiple purposes if each purpose requires a different logical structure, for example being printed and being stored in database.

In contrast, the presently claimed invention claims a structured document having a plurality of types of logical structures using a DTD corresponding to the plurality of logical structures to create a structured document. As such, the presently claimed invention is an improved and more efficient method for creating structured documents than the method discussed and suggested by Sato in view of Wanderski.

It would *not* have been obvious to a person of ordinary skill in the art at the time present the invention was made to combine the Sato and Wanderski references to create a method for creating a structured document such that one document instance has a plurality of types of logical structures using a DTD, wherein the one structured document, defined in terms of one DTD, can be used for multiple purposes, such as printing and saving.

Further, there is no finding as to the specific understanding or principle within the

knowledge of a skilled artisan that would have motivated one with no knowledge of the presently claimed invention to make the invention in the manner claimed. The reference must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

Therefore, for at least the foregoing reasons, independent claim 1 patentably distinguishes over the cited references.

Moreover, dependent claim 5 depends from claim 1. Therefore, for at least the reasons that claim 1 patentably distinguishes over the cited references, it is respectfully submitted that claim 5 also patentably distinguishes over the cited references.

Moreover, independent claim 13 recites, " [a] computer-readable medium storing a program which ... defines a document structure of said structured document, including *a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance* ... ." (italics added). Similarly, independent claim 14 recites, "[a] computer system creating a structured document in accordance with a predetermined document type definition, comprising: ... a document structure of said structured document, *including a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance* ... ." (italics added) Therefore, for at least the reasons that claim 1 is patentably distinguishable over the cited prior art, it is respectfully submitted that claim 5 is also patentably distinguishable over the cited prior art.

B. Each of dependent claims 2 and 6 patentably distinguish over Sato in view of Wanderski.

By way of review, claim 2 recites, "... for each of the plurality of entity declarations, control information indicating whether the entity declaration is valid or invalid is additionally

described." Sato fails to disclose or suggest a method including a plurality of element declarations that respectively define a plurality of type of logical structures for the same one document instance. Instead, Sato discloses that "the keyword extraction module 102 shown in FIG. 1 checks whether there is a string in the electronic document which string matches the format conditions of the keyword extraction rule. If there is a matching string, it is extracted as the keyword." Sato, FIGS. 1&7, Column 8, Lines 25-63. Therefore, it is respectfully submitted that claim 2 is patentable over Sato for at least the foregoing reasons.

Moreover, dependent claim 6 depends from claim 2. Therefore, for at least the reasons that claim 1 patentably distinguishes over the cited references, it is respectfully submitted that claim 6 also patentably distinguishes over the cited references.

C. Each of dependent claims 3, 4, 7, and 8 patentably distinguishes over Sato in view of Wanderski.

By way of review, each of claims 3 and 4 recites, "... the plurality of different logical structures include a logical structure form layout and a table form layout." As previously discussed with respect to claim 10, Sato does not disclose a plurality of different logical structures defined by a plurality of element declarations. Rather than disclosing the foregoing feature, Sato discloses extracting one or more keywords from a non-structural document and then relating each of the extracted keywords to a predetermined DTD. Sato, Column 15, Lines 3-41. As such, the Examiner's characterization of the Sato reference does not correspond to the presently claimed invention as recited in each of claims 3 and 4. Therefore, it is respectfully submitted that each of claims 3 and 4 is patentable over Sato for at least the foregoing reasons.

Moreover, each of dependent claims 7 and 8 depends from claims 3 and 4, respectively. Therefore, for at least the reasons that each of claims 3 and 4 patentably distinguishes over the

cited references, it is respectfully submitted that each of claims 7 and 8 also patentably distinguishes over the cited references.

IX. Conclusion

In view of the law and facts stated herein, the Appellant respectfully submits that the Examiner has failed to cite references sufficient to maintain either an anticipation or obviousness rejection of the rejected claims. Appellant respectfully urges that the rejection of claims 9-12 under 35 U.S.C. §102(e) and the rejection of claims 1-8 and 13-14 under 35 U.S.C. §103(a) is improper. Reversal of the rejections in this appeal is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees required in connection with the filing of the Appeal Brief to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: June 17, 2004

By: _____

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X. Appendix A

CLAIMS:

1. (PREVIOUSLY PRESENTED) A structured document creation method for creating a structured document in accordance with a predetermined document type definition, comprising:

preparing at least one document instance which presents a contents of said structured document, and a document type definition which defines a document structure of said structured document, including a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance, and a plurality of entity declarations which respectively designate said defined logical structures;

validating one of said entity declarations of said document type definition to validate a corresponding one of said element declarations of said document type definition; and

creating said structured document having the contents of said document instance in said one logical structure that is defined by said corresponding validated element declaration.

2. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 1, wherein, for each of the plurality of entity declarations, control information indicating whether the entity declaration is valid or invalid is additionally described.

3. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 1, wherein the plurality of different logical structures include a logical structure form layout and a table form layout.

4. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 2, wherein the plurality of different logical structures include a logical structure form layout and a table form layout.

5. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 1, wherein the structured document is a Standard Generalized Markup

Language document and the document type definition is a Document Type Definition which defines a document structure of the Standard Generalized Markup Language.

6. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 2, wherein the structured document is a Standard Generalized Markup Language document and the document type definition is a Document Type Definition which defines a document structure of the Standard Generalized Markup Language.

7. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 3, wherein the structured document is a Standard Generalized Markup Language document and the document type definition is a Document Type Definition which defines a document structure of the Standard Generalized Markup Language.

8. (PREVIOUSLY PRESENTED) A structured document creation method as claimed in claim 4, wherein the structured document is a Standard Generalized Markup Language document and the document type definition is a Document Type Definition which defines a document structure of the Standard Generalized Markup Language.

9. (PREVIOUSLY PRESENTED) A computer-readable recording medium on which a structured document created in accordance with a predetermined document type definition is recorded, said medium comprising:

the structured document being recorded in a data file formed on said recording medium;

the data file at least having a region in which the document type definition which defines a document structure of said structured document is recorded and another region in which at least one document instance which presents contents of the document are recorded;

a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance, and a plurality of entity declarations which respectively designate said defined logical structures being described in said region in which the document type definition is recorded;

for each of the plurality of entity declarations, information which indicates whether the entity declaration is valid or invalid being additionally described.

10. (PREVIOUSLY PRESENTED) A computer-readable recording medium as claimed in claim 9, wherein the plurality of different logical structures include a logical structure form layout and a table form layout.

11. (ORIGINAL) A computer-readable recording medium as claimed in claim 9, wherein the structured document is a Standard Generalized Markup Language document and the document type definition is a Document Type Definition which defines a document structure of the Standard Generalized Markup Language.

12. (ORIGINAL) A computer-readable recording medium as claimed in claim 10, wherein the structured document is a Standard Generalized Markup Language document and the document type definition is a Document Type Definition which defines a document structure of the Standard Generalized Markup Language.

13. (PREVIOUSLY PRESENTED) A computer-readable medium storing a program which, when executed by a computer, causes the computer to execute functions of a structured document creation method for creating a structured document in accordance with a predetermined document type definition, comprising:

preparing at least one document instance which presents a contents of said structured document, and a document type definition which defines a document structure of said structured document, including a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance, and a plurality of entity declarations which respectively designate said defined logical structures;

validating one of said entity declarations of said document type definition to validate a corresponding one of said element declarations of said document type definition; and

creating said structured document having the contents of said document instance in said one logical structure that is defined by said corresponding validated element declaration.

14. (PREVIOUSLY PRESENTED) A computer system creating a structured document in accordance with a predetermined document type definition, comprising:

a processor preparing at least one document instance which presents a contents of said structured document, and a document type definition which defines a document structure of said structured document, including a plurality of element declarations which respectively define a plurality of types of logical structures for said one document instance, and a plurality of entity declarations which respectively designate said defined logical structures, validating one of said entity declarations of said document type definition to validate a corresponding one of said element declarations of said document type definition, and creating said structured document having the contents of said document instance in said one logical structure that is defined by said corresponding validated element declaration;

a memory storing the structured document; and

a display displaying the structured document, wherein the structured document is an XML document.

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Appendix B

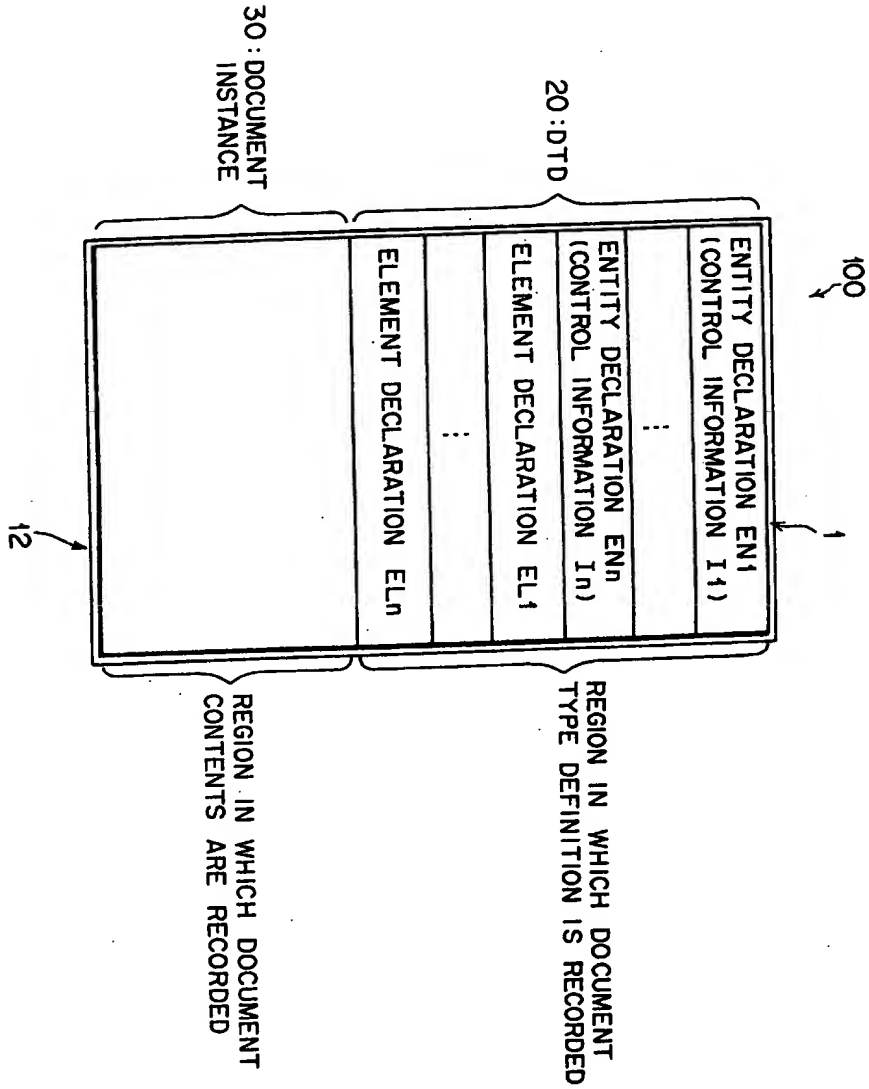

FIG. 1

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FIG.3

```
                                        I1a
                                         ↓
EN1a   <! ENTITY % hierarchy "INCLUDE">      <!-DIAGNOSIS CHART IS REGARDED AS OF
                                               HIERARCHICAL STRUCTURE. VALID AT PRESENT->
EN2a   <! ENTITY % table "IGNORE">           <!-DIAGNOSIS CHART IS REGARDED AS OF
                                               TABLE FORM.  INVALID AT PRESENT->
                          ↑
                         I2a
       <![ %table; [
       <! ELEMENT row 0 0  (a1?, a2?, a3?, a4?, a5?, a6?, a7?)>
EL1a   <! ELEMENT (a1 | a2 | a3 | a4) -0  (name?, topic*)>
       <! ELEMENT a5  -0   (#PCDATA)  >
       ]]>
       <![ %hierarchy; [
EL2a   <! ELEMENT  D  -0   (colspec*, head (a1+ | a4+))>
                                                  ↑
       ]]>                                        20
```